

WHAT IS CLAIMED IS:

1 An electrochromic medium for use in a normally operating electrochromic device, comprising:

5 (a) an anodic material and a cathodic material, wherein both of the anodic and cathodic materials are electroactive and at least one of the anodic and cathodic materials is electrochromic; and

(b) a color-stabilizing additive, wherein the color-stabilizing additive is more easily reduced than the cathodic material.

10 2. The electrochromic medium according to claim 1, wherein the color-stabilizing additive comprises an oxidized form of the anodic material.

15 3. The electrochromic medium according to claim 1, wherein the color-stabilizing additive comprises an additional material present in an oxidized form.

4. The electrochromic medium according to claim 1, wherein the color-stabilizing additive is selected from the group comprising ferrocinium salts, substituted ferrocinium salts, phenazinium salts, substituted phenazinium salts, and mixtures thereof.

20 5. The electrochromic medium according to claim 4, wherein the color-stabilizing additive is selected from the group comprising di-tert-butyl-diethylferrocinium tetrafluoroborate, (6-(tetra-tert-butylferrocinium)hexyl)triethylammonium di-tetrafluoroborate, (3-(tetra-tert-butylferrocinium)propyl)triethylammonium di-tetrafluoroborate, 5-methyl-phenazinium tetrafluoroborate, and mixtures thereof.

6 The electrochromic medium according to claim 1, wherein the concentration of the additive ranges from approximately 0.01mM to approximately 10mM.

5 7 The electrochromic medium according to claim 1, wherein the cathodic material comprises a viologen.

8. The electrochromic medium according to claim 1, wherein the concentration of the cathodic material ranges from approximately 1mM to approximately 500mM.

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9. The electrochromic medium according to claim 1, wherein the concentration of the cathodic material ranges from approximately 5mM to approximately 50mM.

10. The electrochromic medium according to claim 1, wherein the cathodic material
15 comprises tungsten oxide.

11. The electrochromic medium according to claim 1, wherein the anodic material is selected from the group comprising ferrocene, substituted ferrocenes, substituted ferrocenyl salts, phenazine, substituted phenazines, phenothiazine, substituted phenothiazines, and
20 mixtures thereof.

12. The electrochromic medium according to claim 1, wherein the concentration of the anodic material ranges from approximately 1mM to approximately 500mM.

11 The electrochromic medium according to claim 1, wherein the concentration of the
anodic material ranges from approximately 5mM to approximately 50mM.

14 An electrochromic medium for use in a normally operating electrochromic device,
5 comprising:

- (a) an anodic material and a cathodic material, wherein both of the anodic and
cathodic materials are electroactive and at least one of the anodic and cathodic
materials is electrochromic; and
- (b) a color-stabilizing additive, wherein the color-stabilizing additive is more easily
10 oxidized than the anodic material.

15. The electrochromic medium according to claim 14, wherein the color-stabilizing
additive is selected from the group comprising substituted ferrocenes, substituted ferrocenyl
salts, and mixtures thereof.

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16. The electrochromic medium according to claim 15, wherein the color-stabilizing
additive is selected from the group comprising (6-(tetra-tert-butylferrocenyl)hexyl)
triethylammonium tetrafluoroborate, (3-(tetra-tert-butylferrocenyl)propyl) triethylammonium
tetrafluoroborate, di-tert-butyl-diethylferrocene and mixtures thereof.

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17. The electrochromic medium according to claim 14, wherein the concentration of the
additive ranges from approximately 0.01mM to approximately 10mM.

18. The electrochromic medium according to claim 14, wherein the cathodic material comprises a viologen.

19. The electrochromic medium according to claim 14, wherein the concentration of the
5 cathodic material ranges from approximately 1mM to approximately 500mM.

20. The electrochromic medium according to claim 14, wherein the concentration of the
cathodic material ranges from approximately 5mM to approximately 50mM.

10 21. The electrochromic medium according to claim 14, wherein the cathodic material
comprises tungsten oxide.

15 22. The electrochromic medium according to claim 14, wherein the anodic material is
selected from the group comprising ferrocene, substituted ferrocenes, substituted ferrocenyl
salts, phenazine, substituted phenazines, phenothiazine, substituted phenothiazines, and
mixtures thereof.

23. The electrochromic medium according to claim 14, wherein the concentration of the
anodic material ranges from approximately 1mM to approximately 500mM.

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24. The electrochromic medium according to claim 14, wherein the concentration of the
anodic material ranges from approximately 5mM to approximately 50mM.

25. An electrochromic device comprising:
- at least one substantially transparent substrate; and
 - an electrochromic medium according to claims 1 or 14 associated with the at least one substantially transparent substrate.

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26 The electrochromic device according to claim 25, comprising a first substantially transparent substrate and a second substrate.

10 27. The electrochromic device according to claim 26, wherein the device is an electrochromic window.

28. The electrochromic device according to claim 26, wherein the second substrate is plated with a reflective material.

15 29. The electrochromic device according to claim 28, wherein the reflective material is selected from the group comprising chromium, rhodium, silver, alloys of the same, and mixtures thereof.

20 30. The electrochromic device according to claim 29, wherein the device is an electrochromic mirror.